

Model Building Activity -Build the following molecules and fill in the table below and show the direction of molecular polarity if it exists.

Chemical Formula	F ₂ O	SiF ₄	CCl ₂ O	NF ₃
Name	Difluorine monoxide (as written)	Silicon tetrafluoride		Nitrogen trifluoride
Lewis Structure				
# of Atoms bonded to central atom	2	4	3	3
# of Lone pairs on central atom	2	0	0	1
VSEPR Shape	Bent	Tetrahedral	trigonal planar	trigonal pyramidal
Polar bonds (yes or no)	yes	yes (really ionic)	yes	yes
Symmetrical Shape	no	yes	yes	no
Molecular polarity (yes or no)	yes	no	yes	yes

VSEPR Shapes: Linear, Bent, Trigonal planar, Trigonal Pyramidal, Tetrahedral (underlined shapes can show symmetry)

Chemical Formula	CO_3^{2-}	O_3	N_2F_2	HCN
Name			dinitrogen difluoride	
Lewis Structure			<p>Both work</p>	
# of Atoms bonded to central atom	3	2		2
# of Lone pairs on central atom	0	1		0
VSEPR Shape	trigonal planar	Bent		Linear
Polar bonds (yes or no)	yes	no		yes
Symmetrical Shape	yes	no		yes
Molecular polarity (yes or no)	no	no		yes

VSEPR Shapes: Linear, Bent, Trigonal planar, Trigonal Pyramidal, Tetrahedral (underlined shapes can show symmetry)

Chemical Formula	ClO_3^{1-}	NO_3^{1-}	C_2H_2	$\text{C}_2\text{H}_2\text{Cl}_2$
Name			Dicarbon dihydride	
Lewis Structure				
# of Atoms bonded to central atom	3	3		
# of Lone pairs on central atom	1	0		
VSEPR Shape	trigonal pyramidal	trigonal planar		
Polar bonds (yes or no)	no	yes		
Symmetrical Shape	no	yes		
Molecular polarity (yes or no)	no	no		

VSEPR Shapes: Linear, Bent, Trigonal planar, Trigonal Pyramidal, Tetrahedral (underlined shapes can show symmetry)